

PATENT APPLICATION SERIAL NO. _____

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

[illegible]
$$\begin{aligned} \frac{1}{2} \frac{d}{dt} \int_{\mathbb{R}^n} |u|^2 dx &= \int_{\mathbb{R}^n} u \frac{du}{dt} dx \\ &= \int_{\mathbb{R}^n} u \left(-\frac{1}{2} \Delta u + \frac{1}{2} |\nabla u|^2 - \frac{1}{2} u^2 \right) dx \\ &= -\frac{1}{2} \int_{\mathbb{R}^n} u \Delta u dx + \frac{1}{2} \int_{\mathbb{R}^n} u |\nabla u|^2 dx - \frac{1}{2} \int_{\mathbb{R}^n} u^3 dx \end{aligned}$$